Alcatel 4400 Rel3.2 PBX with Cisco CallManager (CCM) Using 6608-E1 QSIG Protocol as MGCP Gateway

This application note illustrates connectivity for Alcatel 4400 Release 3.2 PBX with Cisco CallManager using Cisco 6608-E1 QSIG as MGCP Gateway.

Introduction

Key attributes of the network environment used for this application note:

- The network topology diagram shows the test set-up for end-to-end interoperability with the Cisco CallManager (CCM) connected to the PBX via 6608-E1 QSIG link as MGCP Gateway.

- Connectivity is achieved by using the PRI ISO QSIG E1 protocol type on the MGCP gateway and ABC-F (ISO version) as protocol type on the Alcatel 4400 PBX.

- Basic Calls worked fine in both directions with Calling/Connected Name and Calling Number features support.

- Alcatel 4400 PBX does not honor Connected Number Identification Presentation feature. Alcatel phone does not display *Connected Number* even though CCM is sending the information in the connect message.

- Call Forwarding did not work when the IP phone calls an Alcatel phone that is setup to forward to another Alcatel phone.

Network Topology

Basic Call Setup End-to-End Configuration
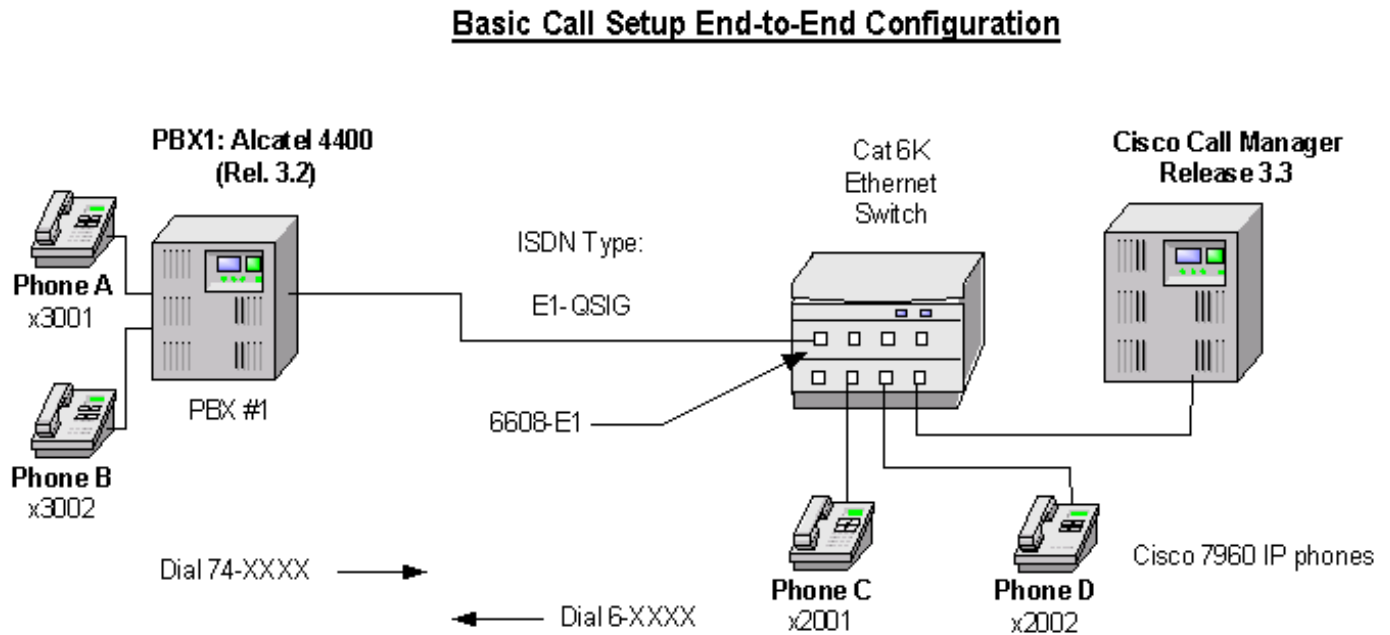
Limitations

Calling Name and Number Feature

When calling from Alcatel digital phone to Cisco 7960 IP phone, the Cisco IP phone displays Calling Name and Number when the call is answered. Alcatel phone however displays connected Name only, No connected Number when the call is answered. Alcatel does not honor Connected Number Identification Presentation QSIG service even though CCM is sending the Connected Number information in the connect message.

CCM Seaview release does not support sending Alerting Name or Busy Name Identification information.

Call Forwarding

Calls did not complete when the IP phone calls an Alcatel phone that is setup to forward to another Alcatel phone. Alcatel in this case sends Facility IE for 'CallRerouting'. Since CCM3.3 Seaview release does not support CallRerouting, the call is not completed.

System Components

Hardware Requirements

Cisco Hardware:

- Cisco Cat6K switch with 6608-E1 Gateway
- Cisco CM 3.3

Alcatel 4400 PBX Hardware:

- PRA2, 3BA23076- E1 PRI/QSIG

Software Requirements

Alcatel: PBX Software version 3.2

Cisco: Cisco CM 3.3

Features

Key features supported:
- Calling Name Identification Presentation
- Calling Number Identification Presentation
- Calling Number Identification Restriction
- Connected Name Identification Presentation
- Connected Number Identification Presentation
- Honor Calling/Connected Name Identification Restriction
- Honor Calling/Connected Number Identification Restriction
- Key features not supported:
- Sending Alerting Name Identification
- Sending Busy Name Identification
- Sending Calling/Connected Name Identification Restriction
- Sending Connected Number Identification Restriction
- Updating Connected Number on Alcatel phone for Basic Calls
- Updating Connected Name and Number for Call Transfers

- Updating Connected Name and Number for Call Forwarding

Configuring the Alcatel 4400 PBX

Configure in the following sequence:

Configure "ISO Function" System Parameters

Command: `\compidea\System::1\Other System Param::1`

Table 1 Other System Parameter Listing

Parameter	Value
Instance (reserved)	1
Trunk seizure via attendant	True
No detect.of On-hook tone	True
TrkGrp in ticket for trans.call	True
VPN service	False
ISVPN Node No.	1
Nb Digits displayed on sets	1
Melody Ringing Type	1
Int.Call Ringing Cadence No	1
Ext.Call Ringing Cadence No	1
Executive Type Ringing Cadence No	1
Prioritary Call Cadence No	1
ISO Function	True
Booking B Channel	True
Uncontrol.Business Account Code	False
Business Pref.With Business No.	True
Project prefix With Code	False
Follow-Me on Remote forwarding	False
BC HLC Fax	1

Table 1 Other System Parameter Listing

Parameter	Value
VG Recording Gain from an UA set	3
Calling Id.length	7
Nb Of Secret Code Errors	0
Transfer All Business Call Types	True
Attendt Keep Local on Enqu.cancel	False
Compatibility GF	True
Alphanum.Char.Entering-mode2	True
Spain version 2	False
Delete First STAR Digit	True
QSIG1 (reserved)	0
QSIG2 (reserved)	0
Stop Tie Line Supervision	False
Tie Line Germany	0
Entity For Virtual Set	0
Nb Of Business Code Errors	0
Disabled Code Duration	0
Poor ARS Rerouting memo.Dur.	20
Poor ARS Route Inhibit Dur.	180
Charging by Nb MiniMessages	True
Remote Numeric Gain For 4630	True
Project Code In Redial Key	True
Cx on Progress message	False
Differred transm.(Swiss trick)	False
Send NDS NDI	False
Calls Distributed On Att.In Order	False
Nb non answ. int. messages by set	16
NS_read_before_ack	False
SNCM	0

Configure Board

Note: Interface type must be set to PRA2

Command: `\compidea\Shelf::0\Board::4`

Table 2 Board Parameter Listings

Board Parameter	Value
Board Address	4
Interface Type	PRA2
Administrative status	Enabled
Usage State	Busy
Operational State	Enabled
Main/Standby State	Main (Master)
Number Of Sets Being Connect.	1
Remote Shelf Address	255
Remote Board Address	255
Synchronisation Priority	255
IO2 With SPB	NO
AUXU Parameters 1	None
AUXU Parameters 2	None
AUXU Parameters 3	None
AUXU Parameters 4	None
CRC4	YES
Country Protocol Type	Default
Time Slots\0	0
Time Slots\1	1
Time Slots\2	1
Time Slots\3	1
Time Slots\4	1
Time Slots\5	1
Time Slots\6	1
Time Slots\7	1
Time Slots\8	1

Table 2 Board Parameter Listings

Board Parameter	Value
Time Slots\9	1
Time Slots\10	1
Time Slots\11	1
Time Slots\12	1
Time Slots\13	1
Time Slots\14	1
Time Slots\15	1
Time Slots\16	0
Time Slots\17	1
Time Slots\18	1
Time Slots\19	1
Time Slots\20	1
Time Slots\21	1
Time Slots\22	1
Time Slots\23	1
Time Slots\24	1
Time Slots\25	1
Time Slots\26	1
Time Slots\27	1
Time Slots\28	1
Time Slots\29	1
Time Slots\30	1
Time Slots\31	1
Voice-->Data TS	YES
SU shelf Type	2 PCM Shelf
DECT Location area number	255
Send Init Dynamic Msg	False
Param By Default	True
Clock Mode	Internal

Table 2 Board Parameter Listings

Board Parameter	Value
CPU with Optimized B ChannelAccess	NO
Board with DTM	False
Incidents Teleservice	YES
Max.VG Recording Duration	0
DASS2 Simulate Network	NO
DPNSS Layer 2 Address	A
ISDN Board Layer 2 Parameters\Retransmission Timer	100
ISDN Board Layer 2 Parameters\TEI Identity Check Timer	100
ISDN Board Layer 2 Parameters\Polling Timer	1000
ISDN Board Layer 2 Parameters\Nb_Of_Retransmission	3
ISDN Board Layer 2 Parameters\Max Frame Size (Bytes)	260
ISDN Board Layer 2 Parameters\Window Size In Frames SAPI S T0	1
ISDN Board Layer 2 Parameters\Window Size In Frames SAPI P T0	3
ISDN Board Layer 2 Parameters\Window Size In Frames SAPI S T2	7
ISDN Board Layer 2 Parameters\Window Size In Frames SAPI P T2	7
Number of configured ports	1

Table 2 Board Parameter Listings

Board Parameter	Value
Associated CPU	255
Number of configured E1 ports	8
Synchronisation mode	Adaptive method
In Band Signalling	NO
Passive board	NO
SS7 signalling	NO
PRA7 TS signalling	16
Use Data Compression	NO
Mutual Aid	YES
LIO Daughter Board	6 Compressors
Tone on Board	R2 Tone
Number of Used Compressors	0
GNISC in Rack	255
GNISC in position	255
Usage State	Suite Slave
Atm address	
TS used on PCM 0	0
TS used on PCM 1	0
TS used on PCM 2	0
TS used on PCM 3	0
TS used on PCM 4	0
TS used on PCM 5	0
TS used on PCM 6	0
TS used on PCM 7	0
Daughter board equipped	NO
Number of Used Compressors	0
Mode	Gateway IP

Table 2 Board Parameter Listings

Board Parameter	Value
Embedded Ethernet	YES
Voice Guide Lang Index	1
CLIP Signalization	No CLIP
IVR Protocol	No IVR Protocol Protocol
4615 Present	NO
LIOE coupler 1 address	255
LIOE coupler 2 address	255
Associated BBC2 coupler	255
Associated BBC2 access	255
Use of volume in system	YES
Local volume (dB)	0

Configure Digital Access Options

Note: Network mode must be set to Yes for (Master/Network) or No- (Slave/User); Access Type must be set to T2.

Command: `\compidea\Shelf::0\Board::4\Digital Access::0`

Table 3 Digital Access Options Listing

Parameter	Value
T0/T2 Access No.	0
Access Type	T2
Used Access	YES
Synchronisation Priority	255
Network Mode	YES
Max Nb Of Used B Channels	30
Max_Nb_Of_Compressed_B_Channels	0

Table 3 Digital Access Options Listing

Parameter	Value
Nb Of Signalization TS	1
TieLine Mode	YES
With Alarm	NO
Access Type S0	NO
Reserved1	NO
Reserved2	NO
Network Date Time Update	NO
CRC4	YES
Port Class	NOT SIG
Multiframe Type	SF
Line Type	Short Haul 0 to 35 meters
Pulses Encoding	AMI
Retransmission Timer	100
TEI Identity Check Timer	100
Polling Timer	1000
Nb_Of_Retransmission	3
Max Frame Size (Bytes)	260
Window Size In Frames SAPI S	7
Window Size In SAPI P	7
B Channel Rate	64K
	64K

Configure Trunk Group

Note: Q931 signal variant is used to set the protocol type to ABC-F

Command: `\compidea\Trunk Groups::1`

Table 4 Trunk Group Parameter Listing

Parameter	Value
Trunk Groups	
Trunk Group Id	1
Trunk Group Type	T2
Trunk Group Name	PRI-ABCF
Node number	1
Transcom Trunk Group	False
Auto.reserv.by Attendant	False
Overflow trunk group No.	-1
Tone on seizure	False
Private Trunk Group	False
Paging Trunk Group	False
Paging Table Id	-1
Paging Signalization	NDDI
Security Patrol	False
Q931 signal variant	ABC-F
Operator Id	ANSI
Number Compatible With	-1
Prefix Sending	False
Number Of Digits To Send	4
Channel selection type	Quantum
Remote Network	15
Shared Trunk Group	False
T.line Calling last dig.length	0

Table 4 Trunk Group Parameter Listing

Parameter	Value
auto.DTMF dialing on outgoing call	NO
T2 Specificity	None
Public Network Category	0
DDI transcoding	False
Special Services	Nothing
Can support UUS in SETUP	True
Register Signalling	Decadic/MF Q23

Configure Trunk Detail

Command: \compidea\Trunk Groups::1\Trunk Group::1

Table 5 Trunk Detail Listing

Parameter	Value
Trunk Group	
Instance (reserved)	1
Trunk Group Type	T2
Public Network Ref.	
Dialling end to end	NO
DTMF end to end signal.	NO
Paying Incoming Calls	NO
TS Permanently assigned	NO
Min. Nb.of digits on seize	0
Signal.with access code	NO
Trunk group used in DISA	NO
DISA Secret Code	

Table 5 Trunk Detail Listing

Parameter	Value
VG for non-existent No.	YES
Routing To Executive	NO
Trunk Category Id	19
Nb of digits unused (ISDN)	4
B Channel Choice	NO
Channels Reserved By Attend.	0
Dissuasion For ACD	NO
DTO joining	NO
Enquiry Call On B Channel	NO
DDI Mode	NO
Automated Attendant	NO
Calling party Rights category	0
Entity Number	0
TS Overflow	YES
Number To Be Added	
Supervised by Routing	NO
Access Cluster Id	-1
VPN Cost Limit for Incom.Calls	0
Immediat Trk Listening For VPNCall	YES
VPN TS %	50
Csta Monitored	NO
Max.% of trunks out CCD	0
Charge Calling And ADN Creation	NO

Table 5 Trunk Detail Listing

Parameter	Value
Ratio analog.to ISDN tax	
Collect Calls Allowed	YES
Priority of Call	NO
PCM Network Mode	NO
LogicalChannel	1__15 & 17__31
TS Distribution on Accesses	YES
Use Split Acces	NO
Heterogeneous Remote Network	NO
Barring mode	Not barred
ARS class of service	31
Quality profile for voice on IP	Profile #1
IP compression type	Default
Use of volume in system	YES
Local volume (dB)	0

Configure T2 Access

Command: `\compidea\Trunk Groups::1\T2/T1/T0 Access::0-4-0`

Table 6 T2 Access Parameter Listing

Parameter	Value
T2/T1/T0 Access	
Physical Address	0-4-0
Access Type	T2
Access Cluster Id	-1
Time Slots T2	011111111111111011111111111111
Time Slots T0	011
Time Slots T1 CCS	0111111111111111111111110
Time Slots Virtual	01111110000000

Table 6 T2 Access Parameter Listing

Parameter	Value
DLCI	16
Committed Information Rate	48
Extended Information Rate	64
CIR Measurement Interval	10
Support Time Slot Address	
ISDN Compression Number	
Release Support Timer (100ms)	0
Protection Timer (1mn)	0

Configuring CCM—6608-E1 Gateway Configuration

Cisco CallManager 3.3 Administration - Gateway Configuration - Microsoft Internet Explorer

File   Edit   View   Favorites   Tools   Help

Back   →   Search   Favorites   History

Address http://ferengi/CCMAdmin/gatewayconfig.asp?pkid={CB557D64-12B9-451A-979A-E4D32198D86A}&type=2   Go   Links

Cisco CallManager Administration
For Cisco IP Telephony Solutions

CISCO SYSTEMS

Gateway Configuration

Back to Find/List Gateways

Product : Cisco Catalyst 6000 E1 VoIP Gateway

Gateway : S0/DS1-0@SDA000164122280
Device Protocol: Digital Access PRI
Registration: Registered with Cisco CallManager 10.10.10.1
IP Address: 10.10.10.104

Status: Ready

[Update]   [Delete]   [Reset Gateway]

Device Information

MAC Address*	000164122280
Description	SDA000164122280
Device Pool*	Default
Network Locale*	United States
Media Resource Group List	< None >
Location	< None >
AAR Group	< None >
Load Information	

Interface Information

PRI Protocol Type*	PRI ISO QSIG E1
Protocol Side*	User
Channel Selection Order*	Top Down

Local intranet

Enbloc Route Pattern Configuration

Cisco CallManager 3.3 Administration – Route Pattern Configuration – Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back → Search Favorites History

Address http://ferengi/CCMAdmin/routepatternconfig.asp?pkid={AB9DD1D1-A861-44F8-A286-72E0CA4426A1}

Route Pattern: 6.XXXX

Status: Ready
Note: Any update to this route pattern automatically resets the associated gateway/route list

[Copy] [Update] [Delete]

Pattern Definition

Route Pattern*	6.XXXX
Partition	< None >
Description	
Numbering Plan*	North American Numbering Plan
Route Filter	< None >
Gateway/Route List*	S0/DS1-0@SDA000164122280 (Edit)
Route Option	⦿ Route this pattern ○ Block this pattern

☑ Provide Outside Dial Tone   ☐ Urgent Priority

Calling Party Transformations

☐ Use Calling Party's External Phone Number Mask

Calling Party Transform Mask	
Prefix Digits (Outgoing Calls)	
Calling Party Presentation	Default

Called Party Transformations

Discard Digits	PreDot
Called Party Transform Mask	
Prefix Digits (Outgoing Calls)	

ISDN Network-Specific Facilities Information Element

Carrier Identification Code	
Network Service Protocol	— Not Selected —

Network Service	Service Parameter Name	Service Parameter Value
— Not Selected —	< Not Exist >	

Done   Local intranet

Overlap Sending Route Pattern Configuration

References

Alcatel 4400 Rel4.2 PBX with CCM using 6608-E1 QSIG protocol as MGCP Gateway (Application Note)

Appendix A

CCM Software release:
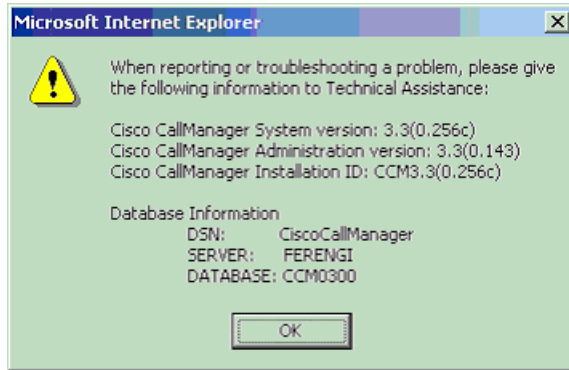
Alcatel 4400 Software Release

Command: \compidea\node

Table 7 Alcatel Software Parameter Info

Parameter	Value
Node	
Node Number (reserved)	1
Software Version	R3.2
Version name	c1.712
Patch No.	5
Notes	
Object Identity	
Node Number (reserved)	1
Ethernet Notes\Netmask	
Ethernet Notes\Local CPU\Name	x000000_tun
Ethernet Notes\Local CPU\IP Address	172.30.253.253
Ethernet Notes\Twin Cpu\Name	

Table 7 Alcatel Software Parameter Info

Parameter	Value
Ethernet Notes\Twin Cpu\IP Address	
Ethernet Notes\Main Cpu\Name	xm000000
Ethernet Notes\Main Cpu\IP Address	10.253.253.3
Ethernet Notes\StandBy Cpu\Name	
Ethernet Notes\StandBy Cpu\IP Address	
SL Notes	
IP/X25 Tunnel Notes\Netmask	255.255.0.0
IP/X25 Tunnel Notes\Local Node\Name	x000000_tun
IP/X25 Tunnel Notes\Local Node\IP Address	172.30.253.253

Cisco Catalyst 6000 Switch Configuration

```
Console> (enable) sh version
WS-C6506 Software, Version NmpSW: 6.1(4)
Copyright (c) 1995-2001 by Cisco Systems
NMP S/W compiled on May 15 2001, 12:27:20

System Bootstrap Version: 5.3(1)

Hardware Version: 2.0  Model: WS-C6506  Serial #: TBA04110341

Mod Port Model               Serial #    Versions
--- ---- ------------------- ----------- -------------------------------------
1   2    WS-X6K-SUP1A-2GE    SAD041504XL Hw : 3.1
                                         Fw : 5.3(1)
                                         Fw1: 5.1(1)CSX
                                         Sw : 6.1(4)
                                         Sw1: 6.1(4)
         WS-F6K-PFC          SAD0413097K Hw : 1.1
3   48   WS-X6248-RJ-45      SAD04150CK1 Hw : 1.2
                                         Fw : 5.1(1)CSX
                                         Sw : 6.1(4)
5   8    WS-X6608-E1         SAD043300AJ Hw : 1.1
                                         Fw : 5.4(2)
                                         Sw : 6.1(4)
                                         HP1: D00403030007; DSP1: D005b033 (3.6.
33)
                                         HP2: D00403030007; DSP2: D005b033 (3.6.
33)
                                         HP3: D00403030007; DSP3: D005B033 (3.6.
33)
                                         HP4: D00403030007; DSP4: D005B033 (3.6.
33)
                                         HP5: C00103010007; DSP5: C002E031 (3.3.
2)
                                         HP6: C00103010007; DSP6: C002E031 (3.3.
2)
                                         HP7: C00103010007; DSP7: C002E031 (3.3.
2)
                                         HP8: C00103010007; DSP8: C002E031 (3.3.
2)

        DRAM                    FLASH                   NVRAM
Module Total   Used    Free    Total   Used    Free    Total Used  Free
------ ------- ------- ------- ------- ------- ------- ----- ----- -----
1       65408K  43645K  21763K  16384K  5327K   11057K  512K  245K  267K

Uptime is 199 days, 22 hours, 13 minutes
Console> (enable)


Console> (enable) sh module
Mod Slot Ports Module-Type             Model               Sub Status
--- ---- ----- ----------------------- ------------------- --- --------
1   1    2     1000BaseX Supervisor    WS-X6K-SUP1A-2GE    yes ok
3   3    48    10/100BaseTX Ethernet   WS-X6248-RJ-45      no  ok
5   5    8     E1                      WS-X6608-E1         no  ok
```

```
Mod Module-Name         Serial-Num
--- ------------------- -----------
1                       SAD041504XL
3                       SAD04150CK1
5                       SAD043300AJ

Mod MAC-Address(es)                          Hw     Fw         Sw
--- --------------------------------------- ------ ---------- -----------------
1   00-d0-d3-37-f9-8e to 00-d0-d3-37-f9-8f 3.1    5.3(1)     6.1(4)
    00-d0-d3-37-f9-8c to 00-d0-d3-37-f9-8d
    00-01-63-af-5c-00 to 00-01-63-af-5f-ff
3   00-01-97-4a-10-30 to 00-01-97-4a-10-5f 1.2    5.1(1)CSX  6.1(4)
5   00-01-64-12-22-80 to 00-01-64-12-22-87 1.1    5.4(2)     6.1(4)

Mod Sub-Type               Sub-Model           Sub-Serial  Sub-Hw
--- ---------------------- ------------------- ----------- ------
1   L3 Switching Engine    WS-F6K-PFC          SAD0413097K 1.1

Console> (enable)


Console> (enable) sh port 5/1
Port  Name              Status     Vlan       Duplex Speed Type
----- ----------------- ---------- ---------- ------ ----- ------------
 5/1                    connected  1                 full 2.048 E1

Port    DHCP    MAC-Address       IP-Address      Subnet-Mask
------- ------- ----------------- --------------- ---------------
 5/1    enable  00-01-64-12-22-80 10.10.10.104    255.255.255.0

Port    Call-Manager(s)   DHCP-Server     TFTP-Server     Gateway
------- ----------------- --------------- --------------- ---------------
 5/1    10.10.10.1        10.10.10.1      10.10.10.1      10.10.10.1

Port    DNS-Server(s)    Domain
------- ---------------- --------------------------------------------------
 5/1    -                -

Port    CallManagerState DSP-Type
------- ---------------- --------
 5/1    registered       C549

Port  NoiseRegen NonLinearProcessing
----- ---------- -------------------
 5/1  enabled    enabled

Port  Trap     IfIndex
----- -------- -------
 5/1  disabled 66
Console> (enable)
```

Test Configuration

Figure 2
Test Configuration Diagram

Basic Call Setup End-to-End Configuration
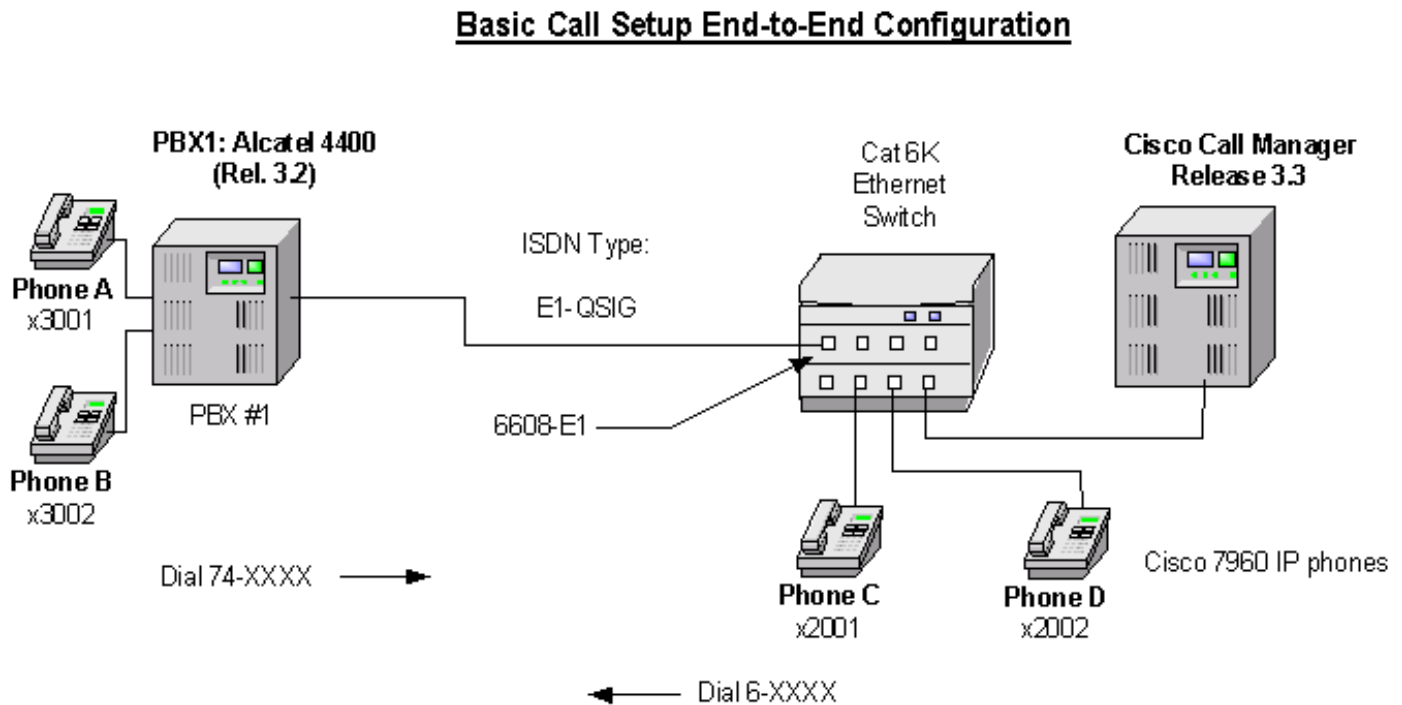
As shown in Figure 2, an Alcatel 4400 PBX was connected via an ISDN E1 PRI QSIG link to a Cisco 6608-E1 Gateway, which in turn, was connected to an Ethernet switch. The interoperability testing involved Layers 1, 2 and 3 on the ISDN PRI QSIG link between a Cisco 6608-E1 and the PBX.

Layer 1 (Physical Layer)

The Alcatel 4400 PBX configuration screen for the ISDN PRI QSIG trunk interface is reached using both Alcatel Board and Board\Digital Access menus, setting the PRI physical layer parameters.

Layers 2 & 3 (Q.921 and Q.931)

Layer 2 and 3 packet exchanges were monitored using an Acacia Clarinet protocol analyzer, bridged across the PRI link in high impedance mode.

Layer 2 Q.921 packets were monitored to ensure that each PBX/6608-E1 software configuration properly exchanged SABME/UA packets to initialize the ISDN link, and then RR packets were exchanged every 30 seconds.

Layer 3 Q.931 packets were monitored to ensure that the appropriate call setup/teardown packets were exchanged for each configuration, and that the SETUP packets contained the mandatory Information Elements with the necessary details, as well as optional IEs such as Calling Name and Number.

Telephone calls were made end-to-end in both directions through the Cisco 6608-E1 Gateway, and a check was made to ensure that there was an audio path in both directions for each call.

User/Network Settings

The Cisco 6608-E1 Gateway with ISDN protocol type setting of PRI ISO QSIG E1 supports both protocol sides by selecting "Network/User" in the Protocol Side field when configuring the Gateway via CCM.

The Alcatel 4400, supports both "USER" (slave) and "NETWORK" (master) protocol sides. Network/User options are set in the Board/Digital Access Options menu. Network mode must be set to Yes for (Master/Network) or No - (Slave/User).

The following options for Alcatel PBX are of particular interest:

- Trunk interface type must be set to PRA2.
- Access Type must be set to T2.

Q931 signal variant is used to determine Protocol type. This option was set to ABC-F.

Appendix B

Test Results

Testing was performed by Test Engineer(s): Samir Batio, July 24, 2002

Retesting with CCM3.3-256c load was performed by Test Engineer: Samir Batio, October 1, 2002

Test Setup 1

Test setup was as follows:

- PBX1 configured as ISO version ABC-F, emulates Network.
- Cisco 6608-E1 Gateway configured as PRI ISO QSIG E1, emulates User.

Table 8 Switch and Gateway Settings

Alcatel 4400 Switch-type / Protocol-Side Setting	Cisco 6608-E1 ISDN protocol-type/ Protocol-Side Setting
ABC-F / Network	PRI ISO QSIG E1/User

Table 9 Basic Calls: (Enbloc Sending

Calls Made	Call Comp?	"Calling Number" Displayed on Final Destination?	"Calling Name" Displayed on Final Destination?	"Called Number" Displayed on Orig. Side?	"Called Name" Displayed on Orig. Side?	Notes
Phone A to Phone C	Yes	Yes	Yes	No [1]	Yes	
Phone C to Phone A	Yes	Yes	Yes	Yes	Yes	

1. Alcatel ISO version ABC-F QSIG link does not honor Connected Number Identification Presentation.

Table 10 Basic Calls with Overlap Sending/Receiving: (check trace to verify Overlap mode)

Calls Made	Call Comp?	"Calling Number" Displayed on Final Destination?	"Calling Name" Displayed on Final Destination?	"Called Number" Displayed on Orig. Side?	"Called Name" Displayed on Orig. Side?	Notes
Phone A to Phone C	Yes	Yes	Yes	No	Yes	
Phone C to Phone A	Yes	Yes	Yes	Yes	Yes	[1]

1. Overlap Receiving on Alcatel PBX works when the Cisco gateway configuration for Called Numbering Plan field is set to 'private', 'unknown', or 'ISDN'.

Table 11 Call Transfers: (Supervised Local Transfers)

Calls Made	Call Comp?	Orig. "Calling Number" displayed on Final Dest. phone?	Orig. "Calling Name" displayed on Final Dest. phone?	"Called Number" display on Orig. phone updated after transfer?	"Called Name" display on Orig. phone updated after transfer?	Notes
Phone C to Phone A Xfr to Phone B	Yes	Yes	Yes	No	No	[1]
Phone A to Phone C Xfr to Phone D	Yes	Yes	Yes	No	No	

1. CM3.3 Seaview release does not support Updating Connected Name and Number for Call Transfers QSIG supplementary Services.

Table 12   Call Transfers: (Supervised Network/External)

Calls Made	Call Comp?	Orig. "Calling Number" displayed on Final Dest. phone?	Orig. "Calling Name" displayed on Final Dest. phone?	"Called Number" display on Orig. phone updated after transfer?	"Called Name" display on Orig. phone updated after transfer?	Notes
Phone C to Phone A Xfr to Phone D	Yes	No	No	No	No	
Phone A to Phone C Xfr to Phone B	Yes	No	No	No	No	

Table 13   Call Conferencing (Local)

Calls Made	Call Comp?	"Calling Number" displayed on remaining conferee when the conferencing phone drops out?	"Calling Name" displayed on remaining conferee when the conferencing phone drops out?	"Connected Number" updated on Orig. Caller phone display when a conferee drops out?	"Connected Name" updated on Orig. Caller phone display when a conferee drops out?	Notes
Phone C to Phone A, Phone A conf Phone B	Yes	(A Drops out) Yes	(A Drops out) Yes	(A Drops out) No	(A Drops out) No	[1]
Phone C to Phone A, Phone C conf Phone D	Yes	(C Drops out) No	(C Drops out) No	(D Drops out) No	(D Drops out) No	
Phone A to Phone C, Phone C conf Phone D	Yes	(C Drops out) No	(C Drops out) No	(C Drops out) No	(C Drops out) No	
Phone A to Phone C, Phone A conf Phone B	Yes	(A Drops out) No	(A Drops out) Yes	(B Drops out) No	(B Drops out) Yes	

1. CM3.3 Seaview release does not honor redirectingName and redirectingNumber IE messages.

Table 14 Call Conferencing (Network/External)

Calls Made	Call Comp?	"Calling Number" displayed on remaining conferee when the conferencing phone drops out?	"Calling Name" displayed on remaining conferee when the conferencing phone drops out?	"Connected Number" updated on Orig. Caller phone display when a conferee drops out?	"Connected Name" updated on Orig. Caller phone display when a conferee drops out?	Notes
Phone C to Phone A, Phone A conf Phone D	Yes	(A Drops out) No	(A Drops out) No	(A Drops out) No	(A Drops out) No	
Phone C to Phone A, Phone C conf Phone B	Yes	(C Drops out) Yes	(C Drops out) Yes	(A Drops out) No	(A Drops out) No	
Phone A to Phone C, Phone C conf Phone B	Yes	(C Drops out) No	(C Drops out) No	(C Drops out) No	(C Drops out) No	
Phone A to Phone C, Phone A conf Phone D	Yes	(A Drops out) No	(A Drops out) No	(C Drops out) No	(C Drops out)Yes	

Table 15 Call Forward (Local)

Calls Made	Call Comp?	Original "Calling Number" Displayed on Final Dest.?	Original "Calling Name" Displayed on Final Dest.?	Forwarding "Called Number" Displayed on Final Dest.?	Forwarding "Called Name" Displayed on Final Dest.?	Final dest. "Connected Number" updated at orig. side?	Final dest. "Connected Name" updated at orig. side?	Notes
Phone C to Phone A fwd to Phone B	No	-	-	-	-	-	-	1
Phone A to Phone C fwd to Phone D	Yes	Yes	Yes	No	No	No	Yes	

1. When Alcatel phone is setup for local Call Forwarding it sends Facility IE for 'CallRerouting'. Since CCM3.3 Seaview release does not support 'CallRerouting', the call is not completed.

Table 16 Call Forward (Network/External)

Calls Made	Call Comp?	Original "Calling Number" Displayed on Final Dest.?	Original "Calling Name" Displayed on Final Dest.?	Forwarding "Called Number" Displayed on Final Dest.?	Forwarding "Called Name" Displayed on Final Dest.?	Final dest. "Connected Number" updated at orig. side?	Final dest. "Connected Name" updated at orig. side?	Notes
Phone C to Phone A fwd to Phone D	Yes	Yes	No	No	Yes	Yes	No	
Phone A to Phone C fwd to Phone B	Yes	Yes	No	No	No	No	Yes	

Test Setup 2

Setup was as follows:

- PBX1 configured as ISO version ABC-F, emulates User
- Cisco 6608-E1 Gateway configured as PRI ISO QSIG E1, emulates Network

Table 17 Switch and Gateway Settings

Alcatel 4400 Switch-type/ Protocol-Side Setting	Cisco 6608-E1 ISDN protocol-type/ Protocol-Side Setting
ABC-F / User	PRI ISO QSIG E1 / Network

The test results are the same as in previous section. Refer to Tables 9 through 16 for details.

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